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Sub. B2

(amended)

3. The method of claim [2] 1 wherein, following the step of completing synchronization, one of the synthetic recurring record and recurring record is fanned back into a plurality of fanned non-recurring records [single instances].

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(amended)

4. The method of claim 1 wherein the set of recurring date bearing instances is stored in the second database as a plurality of [single instances] non-recurring records.

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(amended)

5. The method of claim 1 wherein the set of recurring date bearing instances is stored in the second database as a recurring record having a different record structure than the recurring record of the first database.

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(amended)

6. The method of claim 1 further comprising storing a history file containing a record representative of [the presence of a] one of the recurring record [or a] and synthetic recurring record in a past synchronization.

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(amended)

7. A computer program, resident on a computer readable medium, for synchronizing at least a first and a second database, wherein the manner of storing a set of recurring date bearing instances differs between the first and second databases, and at least the first database uses a recurring record to store the set of recurring date bearing instances, comprising instructions for:
processing a plurality of non-recurring records
[instances] in the second database to generate a synthetic

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recurring record representing a set of recurring date bearing instances in the second database;

performing a comparison of the synthetic recurring record of the second database to a recurring record of the first database;

completing synchronization based on the outcome of the comparison.

25 ^(amended) 8. ²⁴ The computer program of claim 7 wherein the instruction for completing synchronization includes adding, modifying, or deleting one of the synthetic recurring record and [or the] recurring record.

Sub. B3 9. ^(amended) The computer program of claim [8] 7 wherein, following the instruction for completing synchronization, one of the synthetic recurring record and recurring record is fanned back into a plurality of fanned non-recurring records [single instances].

10. ^(amended) The computer program of claim 7 wherein the set of recurring date bearing instances is stored in the second database as a plurality of [single instances] non-recurring records.

11. ^(amended) The computer program of claim 7 wherein the set of recurring date bearing instances is stored in the second database as a recurring record having a different record structure than the recurring record of the first database.

(amended)

12. The computer program of claim 7 further comprising instructions for storing a history file containing a record representative of [the presence of a] one of the recurring record [or a] and synthetic recurring record in past synchronization.

Please add the following claims:

Sub.B4 13. The method of claim 1 wherein the synthetic recurring record has a list of excluded instances and the step of processing a plurality of non-recurring records in the second database to generate a synthetic recurring record further comprises generating a list of excluded instances representative of instances previously represented by the recurring record and currently represented by another record or deleted.

14. The method of claim 1 wherein the recurring record and the synthetic recurring record each contain a list of excluded date bearing instances, wherein the step of performing a comparison of the synthetic recurring record to the recurring record includes performing a comparison of the list of excluded date bearing instances of the recurring record with the list of excluded date bearing instances of the synthetic recurring record.

15 14
15. The method of claim 14 wherein the step of completing synchronization includes adding, modifying, or

deleting the list of excluded date bearing instances of one of the recurring record and the synthetic recurring record.

¹⁶~~16~~. The method of claim ¹⁴~~14~~ wherein the step of completing synchronization includes adding, modifying, or deleting one of the synthetic recurring record and recurring record.

¹⁷~~17~~. The method of claim ¹⁴~~14~~ wherein, following the step of completing synchronization, one of the synthetic recurring record and recurring record is fanned into a plurality of fanned non-recurring records excluding the instances in the list of excluded date bearing instances of a corresponding one of the synthetic recurring record and recurring record.

Sub. B5 ~~18. The method of claim 6 wherein the second database assigns a unique ID to each record, and wherein the method further comprises:~~

~~fanning one of the synthetic recurring record and the recurring record into a plurality of fanned non-recurring records;~~

~~storing records in the history file representative of the plurality of fanned non-recurring records;~~

~~storing in the history file the unique IDs assigned by the second database to the plurality of fanned non-recurring records; and~~

recording linkages among the records representative of the plurality of non-recurring records and the record representative of one of the recurring record and synthetic recurring record.

19. The method of claim 6 wherein the second database assigns unique IDs to each record, the history file further contains records representative of non-recurring records of the second database from a past synchronization and unique IDs assigned to the non-recurring records of the second database, and the step of processing a plurality of non-recurring records in the second database to generate a synthetic recurring record further comprises:

performing a comparison of the unique IDs stored in the history file with unique IDs of the plurality of non-recurring records in the second database; and

selecting a set of non-recurring records in the second database based on the comparison of the unique IDs and generating the synthetic recurring record using the set of non-recurring records.

²¹
²⁰ 20. The method of claim ²⁰~~19~~ wherein the step of selecting a set of non-recurring records further comprises selecting a set of non-recurring records in the second database having unique IDs matching a set of the unique IDs stored in the history file.

22 ²⁰ 21. The method of claim 18 wherein one of the synthetic recurring record and the recurring record has an exclusion list and the step of selecting the set of non-recurring records comprises:

selecting a set of records in the history file having unique IDs failing to match any of the unique IDs of non-recurring records in the second database; and

adding, modifying, or deleting the exclusion list of at least one of the synthetic recurring record and the recurring record, using the set of records in the history file.

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22. The method of claim 6 further comprises performing a second comparison of one of the synthetic recurring record and the recurring record to the record representative of the recurring record or the synthetic recurring record in a past synchronization, and completing synchronization based on the outcome of the second comparison.

23. The method of claim 1 wherein each recurring record and each non-recurring record includes a key field, and wherein the step of processing a plurality of non-recurring records in the second database to generate the synthetic recurring record further comprises:

performing a second comparison of the key fields of the recurring and non-recurring records; and

selecting a group of records from among the recurring and non-recurring records based on the outcome of the comparison.

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8 ~~24~~. The method of claim ~~23~~ wherein the step of selecting a group of records comprises selecting the group based on identity of the content of the key fields of the recurring and non-recurring records.

SWB. B7
25. The method of claim 23 wherein each recurring record and each non-recurring record includes at least one other field, and wherein the step of processing a plurality of non-recurring records in the second database to generate a synthetic recurring record further comprises:

performing a third comparison of the at least one other field of the non-recurring records in the group;

selecting a set of non-recurring records based on the outcome of the third comparison; and

generating the synthetic recurring record using the set of non-recurring records.

10 ~~26~~. The method of claim ~~25~~ wherein selecting the set of non-recurring records based on the outcome of the third comparison is based on identity of content of the at least one other field of the non-recurring records in the group.

SWB. B7
27. A computer implemented method of synchronizing at least a first and a second database, wherein each record in the first and second databases includes a key field, the method comprising:

performing a first comparison of the content of the key field of records of the first database with the content of the key field of records of the second database;

selecting a plurality of groups of records of the first and second databases based on the outcome of the first comparison;

performing a second comparison of records in one of the plurality of groups of records; and

completing the synchronization based on the outcome of the second comparison.

48 28. The method of claim ⁴⁷27, the method further comprises selecting the plurality of groups of records based on identity of the contents of the key fields of the records of the first and second database.

29. The method of claim 27 wherein the step of completing synchronization further comprises selecting a corresponding item group of records based on the outcome of the second comparison wherein a corresponding item group of records comprises at least a record from one of the first and the second database.

30. The method of claim 29 wherein the step of completing synchronization further comprises:

performing a third comparison of the records of the corresponding item group; and

completing synchronization based on the third
comparison.

Sub. B9 31. The method of claim 29 further comprising storing
a history file containing history records representative of
records of the first and second databases in a past
synchronization and wherein a corresponding item group further
comprises a history record.

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32. The method of claim 31 wherein the step of
completing synchronization further comprises:
performing a third comparison of the records of
the corresponding item group; and
completing synchronization based on the third
comparison.

51 47
33. The method of claim 27 wherein the key field is a
date field.

52 47
34. The method of claim 27 wherein the key field is a
text field.

Sub. B10 35. The computer program of claim 7 wherein the
synthetic recurring record has a list of excluded instances and
the instruction for processing a plurality of non-recurring
records in the second database to generate a synthetic recurring
record further comprises instructions for generating a list of

excluded instances representative of instances previously represented by the recurring record and currently represented by another record or deleted.

36. The computer program of claim 7 wherein the recurring record and the synthetic recurring record each contain a list of excluded date bearing instances, wherein the instruction for performing a comparison of the synthetic recurring record to the recurring record includes instructions for performing a comparison of the list of excluded date bearing instances of the recurring record with the list of excluded date bearing instances of the synthetic recurring record.

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37. The computer program of claim *37* wherein the instruction for completing synchronization includes instructions for adding, modifying, or deleting the list of excluded date bearing instances of one of the recurring record and the synthetic recurring record.

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38. The computer program of claim *37* wherein the instruction for completing synchronization includes instructions for adding, modifying, or deleting one of the synthetic recurring record and recurring record.

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39. The computer program of claim *37* wherein, following the instruction for completing synchronization, one of the synthetic recurring record and recurring record is fanned

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into a plurality of fanned non-recurring records excluding the instances in the list of excluded date bearing instances of a corresponding one of the synthetic recurring record and recurring record.

Sub B11
40. The computer program of claim 12 wherein the second database assigns a unique ID to each record, and wherein the computer program comprises:

fanning one of the synthetic recurring record and the recurring record into a plurality of fanned non-recurring records;

storing records in the history file representative of the plurality of fanned non-recurring records;

storing in the history file the unique IDs assigned by the second database to the plurality of fanned non-recurring records; and

recording linkages among the records representative of the plurality of non-recurring records and the record representative of one of the recurring record and synthetic recurring record.

41. The computer program of claim 12 wherein the second database assigns unique IDs to each record, the history file further contains records representative of non-recurring records of the second database from a past synchronization and unique IDs assigned to the non-recurring records of the second database, and the instruction for processing a plurality of non-

recurring records in the second database to generate a synthetic recurring record further comprises instructions for :

performing a comparison of the unique IDs stored in the history file with unique IDs of the plurality of non-recurring records in the second database; and

selecting a set of non-recurring records in the second database based on the comparison of the unique IDs and generating the synthetic recurring record using the set of non-recurring records.

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42. The computer program of claim 41 wherein the instruction for selecting a set of non-recurring records further comprises instructions for selecting a set of non-recurring records in the second database having unique IDs matching a set of the unique IDs stored in the history file.

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43. The computer program of claim 41 wherein one of the synthetic recurring record and the recurring record has an exclusion list and the instruction for selecting the set of non-recurring records comprises instructions for :

selecting a set of records in the history file having unique IDs failing to match any of the unique IDs of non-recurring records in the second database; and

adding, modifying, or deleting the exclusion list of at least one of the synthetic recurring record and the recurring record, using the set of records in the history file.

Sub. B/2
44. The computer program of claim 12 further comprises instructions for performing a second comparison of one of the synthetic recurring record and the recurring record to the record representative of the recurring record or the synthetic recurring record in a past synchronization, and completing synchronization based on the outcome of the second comparison.

45. The computer program of claim 7 wherein each recurring record and each non-recurring record includes a key field, and wherein the instruction for processing a plurality of non-recurring records in the second database to generate the synthetic recurring record further comprises instructions for:
performing a second comparison of the key fields of the recurring and non-recurring records; and
selecting a group of records from among the recurring and non-recurring records based on the outcome of the comparison.

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46. The computer program of claim ³⁰~~45~~ wherein the instruction for selecting a group of records comprises instructions for selecting the group based on identity of the content of the key fields of the recurring and non-recurring records.

Sub. B/3
47. The computer program of claim 45 wherein each recurring record and each non-recurring record includes at least one other field, and wherein the instruction for processing a plurality of non-recurring records in the second database to

generate a synthetic recurring record further comprises instruction for:

performing a third comparison of the at least one other field of the non-recurring records in the group;

selecting a set of non-recurring records based on the outcome of the third comparison; and

generating the synthetic recurring record using the set of non-recurring records.

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48. The computer program of claim 47 wherein selecting the set of non-recurring records based on the outcome of the third comparison is based on identity of content of the at least one other field of the non-recurring records in the group.

49. A computer program, resident on a computer readable medium, for synchronizing at least a first and a second database, wherein each record in the first and second databases includes a key field, comprising instructions for:

performing a first comparison of the content of the key field of records of the first database with the content of the key field of records of the second database;

selecting a plurality of groups of records of the first and second databases based on the outcome of the first comparison;

performing a second comparison of records in one of the plurality of groups of records; and

completing the synchronization based on the outcome of the second comparison.

⁵⁴
50. The computer program of claim ⁵³~~49~~, the computer program further comprises instructions for selecting the plurality of groups of records based on identity of the contents of the key fields of the records of the first and second database.

51. The computer program of claim 49 wherein the instruction for completing synchronization further comprises instructions for selecting a corresponding item group of records based on the outcome of the second comparison wherein a corresponding item group of records comprises at least a record from one of the first and the second database.

52. The computer program of claim 51 wherein the instruction for completing synchronization further comprises instructions for:

performing a third comparison of the records of the corresponding item group; and

completing synchronization based on the third comparison.

sub. B15
53. The computer program of claim 51 further comprising instructions for storing a history file containing history records representative of records of the first and second

databases in a ~~past~~ synchronization and wherein a corresponding item group further comprises a history record.

⁵⁴ 54. The computer program of claim ⁵⁵ 53 wherein the instruction for completing synchronization further comprises instructions for:

performing a third comparison of the records of the corresponding item group; and

completing synchronization based on the third comparison.

⁵⁷ 55. The computer program of claim ⁵³ 49 wherein the key field is a date field.

⁵⁸ 56. The computer program of claim ⁵³ 49 wherein the key field is a text field.

Please apply any additional charges or credits to
Deposit Account No. 06-1050.

Respectfully submitted,

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February 18, 1997

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